



VIRGINIA

Virginia would become the first state to implement *Share the Skies* in classrooms. All of the learning modules are aligned with the Standards of Learning.

Virginia has nearly 1,500 instructional technology resource teachers at work in schools each day. The Virginia Department of Education will provide professional development for each of these teachers to ensure that schools are able to participate fully in this unique program.



FOR ADDITIONAL INFORMATION

804.786.0877

Office of Educational Technology

Virginia Department of Education
www.doe.virginia.gov/VDOE/Technology

Institute for Connecting Science Research to the Classroom

Aerospace and Ocean Engineering
Virginia Tech
www.icsrc.org

New Mexico Skies Observatory

www.nmskies.com

Space images courtesy NASA/JPL-Caltech



VIRGINIA DEPARTMENT OF EDUCATION
DIVISION OF
**TECHNOLOGY &
HUMAN RESOURCES**
OFFICE OF EDUCATIONAL TECHNOLOGY



Robert H. Tai, an assistant professor at the University of Virginia's Curry School of Education, suggested in a recent *Washington Times* interview, "There is a strong connection between children's visions of what they see themselves doing as adults and what

they actually end up pursuing when they are adults." In short, for students to aspire to be scientists and engineers, educators must help them understand what scientists and engineers do in daily practice. Students need opportunities to *learn* science by *doing* real science.

Virginia's *Share the Skies* is the nation's first statewide initiative that enables students and teachers to study astronomy in real time *during the daytime* without leaving the classroom. This innovative project allows students to access and control research-grade telescopes to explore the night skies of Australia. Using CCD (Charged-Coupled Device) imaging techniques, students can capture digital images of deep space for further study. The project will be implemented through Virginia's unique network of instructional technology resource teachers (ITRTs) in collaboration with the New Mexico Skies observatory and Virginia Tech's Institute for Connecting Science Research to the Classroom. Ultimately, the project will produce an international student telescope network through which students from Virginia and Australia can collaborate in authentic research.

At the most fundamental level, this project will inspire children and those who teach them. The program will

- Enable students to study astronomy in real time during the daytime
- Assist students in developing essential skills in science, mathematics, computer science, and communication
- Provide opportunities for students to learn science by doing science
- Provide experiences that encourage students to consider careers in science, technology, engineering, and mathematics
- Leverage the existing technical infrastructure in the Commonwealth to deliver high-quality learning experiences
- Provide teachers with effective tools to improve instruction

¹K. Rowland and B. Baschuk, "Science, technology not making the grades in U.S." (*Washington Times*, November 17, 2006).

WHAT MAKES SHARE THE SKIES UNIQUE?

Share the Skies makes real-time stargazing a daytime activity—enabling Virginia students to study the night skies of the southern hemisphere during the day. What really makes *Share the Skies* unique, however, is that students can examine a celestial feature over time. Other programs give students digital access to a telescope just long enough to photograph an object. With *Share the Skies*, students can track their findings for months, increasing the potential of discovering a supernova, comet, or asteroid.



MORE ASTRONOMERS NEEDED

Share the Skies allows students to make lasting contributions to the scientific world. Professional and amateur astronomers will never document all celestial objects. For instance, of the more than 50,000 known asteroids, most have not been studied systematically for shape, size, and occasional binarity. Some asteroids cannot be seen until they are close to the Earth and often are discovered accidentally by amateur astronomers. Students potentially could make a discovery that changes how astronomers look at the skies.

A GLOBAL SCHOOL ENVIRONMENT

Share the Skies also enables students to take part in an online scientific forum. Students in Virginia and Australia will develop an International Student Telescope Network similar to the national organization known as the Student Telescope Network, which allows students across the nation to collaborate in the Youth Activities Committee of the Astronomical League. While students in Virginia will control a telescope in Australia, students in Australia will access a telescope at the New Mexico Skies observatory for their work.